REMARKS

The Applicants appreciate the care with which the Examiner has considered the present Application.

In the Office Action, the Examiner rejected claim 22 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention.

Additionally, the Examiner rejected all of the pending claims 1-22 under 35 U.S.C. 103(a) under Zomchek et al. in view of Cook et al. (U.S. Patent Nos. 6,301,091 and 4,897,606, respectively).

The Applicants address each of these rejections in turn below.

AMENDMENTS TO CLAIMS AND SPECIFICATION

In response to the Examiner's rejection of claim 22 under 35 U.S.C. 112, the Applicants have amended claim 22. Specifically, the Applicants have added the words "of stations" following the word "plurality" throughout the claim to clarify that the plurality in question is indeed the plurality of stations recited in the preamble of the claim.

Additionally, the Applicants have replaced the word "and" following "switch for" and "indicator for" with the words "each access that is". These changes clarify that there is a respective switch that is for each access, where each of the switches is proximate its respective access. Likewise, there is a respective indicator that is for each access, where each of the indicators is proximate its respective access.

Neither of these changes adds new matter or has been made for reasons substantially related to the patentability

of the claim, since the changes are merely stylistic or grammatical in nature. The changes relating to the word "plurality" are merely made to satisfy the Examiner, but in fact are not necessary since there is only one "plurality" recited by claim 22. The other changes relating to the switches/indicators have been made merely to improve the clarity of the claim language insofar as the original claim language clearly provides that the switches and indicators operate in relation to, and are located proximate, the various accesses.

In view of these amendments to claim 22, the Applicants respectfully submit that the indefiniteness rejection of claim 22 is overcome.

Also, the Applicants have made minor corrections to two paragraphs of the Specification. In the first of the two paragraphs, the reference numeral 324 corresponding to the master disconnect switch has been replaced with the reference numeral 334, while in the second of the two paragraphs, the reference numeral 428 corresponding to the VFD has been replaced with the reference numeral 438. These changes are merely made to correct the reference numerals to conform with the drawings and the remainder of the Specification, and consequently do not add new matter.

REJECTIONS OF CLAIMS 1-22 UNDER 35 U.S.C. 103(A)

In paragraph 2 of the Office Action, the Examiner stated the following with respect to claim 1 of the Application:

> Zomchek et al. do not disclose a ground configuration as claimed. Cook et al. disclose a ground configuration (such as ground contactor GC1-1 and ground relay GC1, see cols. 2, 3, lines 65-6) for linking the input nodes to ground when the voltage lines are de-linked from the device. It would have been obvious to one having skill in the art at the time the invention was made to modify the safety relay circuit of Zomchek with a ground configuration as

taught by Cook et al. in order to detect power line fault to ground (Cook et al., col. 2 and 3, lines 65-1).

The Examiner provided similar comments with respect to each of the other independent claims 18, 19 and 22.

Although the Applicants agree with the Examiner that Zomchek et al. apparently fails to disclose any grounding configuration as claimed, the Applicants respectfully disagree with the comments of the Examiner concerning Cook et al. That is, the Applicants respectfully submit that Cook et al. fails to show a grounding configuration as recited by claim 1, as well as fails to show the related limitations of claims 18, 19 and 22.

Cook et al. does not show "a grounding configuration for, when the voltage lines are delinked from the device, linking the input nodes to ground", as recited by claim 1. In particular, Cook et al. does not show any circuit configuration that is capable of grounding multiple power input nodes of a device after those nodes have been disconnected from voltage lines. Instead, Cook et al. shows two high current contacts GC1-2 and GC2-2 that are connected between first and second bus bars 24,27. That is, at most, Cook et al. only shows the grounding of a single node. Additionally, the first and second bus bars 24,27 do not form an "input node" in the sense of claim 1, since the bus bars (or related components) do not form a terminal at which voltage is normally supplied to power a device.

Additionally, the Applicants respectfully submit that it would not have been obvious to modify or combine Zomchek et al. with Cook et al. to arrive at the Applicants' invention. The Applicants respectfully remind the Examiner that, as stated by the Federal Circuit in In re Geiger,:

> Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some suggestion or incentive supporting the combination.

2 USPQ 2d 1276, 1278 (Fed. Cir. 1987).

The Applicants are unable to find, nor has the Examiner shown to exist, any suggestion within either Zomchek et al. or Cook et al. to modify or combine the references to arrive at the Applicants' invention. Indeed, the problems addressed by Zomchek et al. and Cook et al. appear to be totally different from one another such that there is no suggestion to combine those references with one another. Further, the problems addressed by Zomchek et al. and Cook et al. are different from the problems addressed by the Applicants' invention, such that there is no suggestion within the references to combine or modify the references to arrive at the Applicants' invention.

Zomchek et al. apparently relates to the problem of preventing uncontrolled power delivery to a load such as a motor, which can result from a failed switch or an inadvertent hot wire (see col. 1, lines 36-37). Consequently, Zomchek et al. provides a circuit that governs the turning on and off of power to a load such as a motor. In contrast, Cook et al. apparently concerns the problem of how to detect the existence of possible alternate grounding pathways that may exist in addition to a single main grounding pathway (see col. 1, lines 26-46). Consequently, Cook et al. provides a test circuit for identifying whether other grounding pathways exist in a system other than a single main grounding pathway.

These problems addressed by Zomchek et al. and Cook et al. are entirely unrelated. While Zomchek et al. concerns the design of a system for intended power delivery, Cook et al. instead concerns the design of a test circuit for determining unintended power flow. While Zomchek et al.

provides a system that is intended for use in normal operation of a system, Cook et al. in contrast concerns a test circuit for intermittent testing of a system for improper behavior. Because of these differences between Zomchek et al. and Cook et al., it is not surprising that the Applicants are unable to find any suggestion within these references to combine those references.

Moreover, the teachings of Zomchek et al. and Cook et al. appear to be entirely unrelated to the problems addressed by the Applicants' invention--in particular, the need for a "safe and relatively inexpensive system for remotely (e.g., locally) electrically isolating machines [that ensures] that no current or voltage is provided to a hazard during lockout conditions" (Specification, page 6, lines 21-25). Zomchek et al. only appears to address circuitry that properly delivers power to an electrical device, not circuitry making it possible to electrically isolate multiple input nodes of a device to which power is otherwise supplied by grounding those input nodes.

As for Cook et al., that reference does not address the issue of how to properly isolate power input terminals of an operational device. Although Cook et al. does disclose grounding contacts, these grounding contacts are not employed to ground input terminals that otherwise would be supplied with power. Nor are the grounding contacts intended to render inert an electronic device so that it can be serviced by a technician. Rather, the grounding contacts of Cook et al. only serve to provide the single main grounding point for the system. And, to the extent that Cook et al. discloses devices for rendering anything safe, it is personnel protection devices 34 and 36 that serve this purpose, not the grounding contacts.

For at least these reasons, therefore, the Applicants respectfully submit that the pending independent claims 1, 18, 19 and 22, as well as pending dependent claims 2-17 and 20-21, are not obvious in view of Zomchek et al. and Cook et al., alone or in combination, and that the rejections of those claims are overcome.

* * *

Conclusion

Given the amendments to the Claims and Specification, and Applicants' Remarks, the Applicants respectfully request reconsideration and allowance of the present Application.

The Applicants wish to invite the Examiner to telephone the Applicants' attorney at the number listed below if discussion with the Applicants' attorney would be of assistance to the Examiner or further the prosecution of the present Application.

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VERSION SHOWING CHANGES TO SPECIFICATION AND CLAIMS

Amended paragraph to replace current paragraph at page 3, line 21 through page 4, line 3:

While the master disconnect switch **334** [324] is advantageous, a system including only a master switch **334** [324] is disadvantageous for several reasons. First, as indicated above, typically the switch is located at a master control panel 324 which may be remote from an access point. In this case, once the operator recognizes a problem which requires operator intervention, the operator has to halt line operation, run to the master control panel 324, open the master disconnect switch 334, lock out and tag the switch 334, perform a lockout/tag out power off verification to ensure lockout and tag out, walk back to the problem station 312, access the station 312 to eliminate the problem, walk back to the control panel 324, untag and unlock the disconnect switch 334, close the switch 334 and then start the process once again. While this process may not seem burdensome where a processing line is relatively short (e.g., 10 stations long), this process is extremely burdensome in cases where a line may have many stations which may be up to 3000 or more feet from the master control panel 324 where problems occur routinely (e.g., several times per operator shift).

Amended paragraph to replace current paragraph at page 15, lines 4-17:

Referring still to Fig. 2, in operation, with each of switches RLS1, RLS2 and RLS3 in their ON positions such that contacts 117, 118, 131, 132, 135 and 136 are closed and first contacts 116, 130 and 134 are open, when

switches 78 and 80 are manipulated by an operator in an effort to provide power to hazard 52, all of the safety relay output contacts (i.e. contacts in boxes 72 and 74) are closed. In this case, control relay coil CR is energized such that control relay contact CR-1 is closed and contacts CR-2 and CR-3 are both open. Thus, all of the contacts in series with coils I-1 and I-2 are closed and each of coils I-1 and I-2 are energized. As current flows through coils I-1 and I-2, all of the line contacts (i.e., IK1-1, IK1-2, IK1-3, IK2-1, IK2-2 and IK2-3) close and power is provided to hazard 52 (i.e., referring also to Fig. 5, power is provided to VFD **438** [428] and controls 430 to drive motor 421 and each of stations 402 through 420). In addition, isolation contacts IK2-4 and IK1-5 are both open when coils I-1 and I-2 are energized.

Amended version of Claim 22:

22. (Amended) A safety switching system for use with a manufacturing line which includes a plurality of stations, the plurality **of stations** linkable to voltage supply lines at input nodes, each station having an access, the system for remotely facilitating electronic isolation of the plurality **of stations** and for indicating said isolation on an access by access basis, the system comprising:

a control configuration for selectively linking and delinking the voltage lines to and from the plurality **of stations**, respectively;

a grounding configuration for, when the voltage lines are delinked from the plurality **of stations**, linking the input nodes to ground;

a switch for **each access that is** [and] positioned proximate each access, each switch positionable in at least a first position wherein the switch causes the control

configuration to link the voltage lines to the plurality **of stations** and a second configuration wherein the switch causes the control configuration to delink the voltage lines from the plurality **of stations**; and

an indicator for **each access that is** [and] positioned proximate each access, each indicator indicating electrical isolation of a corresponding station when a switch associated with the corresponding station is in the second position and the lines are grounded.